

Roth 401(k)s Are Wrong for Most 401(k) Participants: A Quantitative Analysis

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The buzz in the 401(k) marketplace today is that the Roth 401(k) will be a great new tool for savers. But the buzz is wrong: The "traditional" 401(k) deductible contribution will produce more income during retirement in most circumstances versus contributing the same net amount to a Roth 401(k). Conclusion? The vast majority of workers are better off sticking with the current deduction, and as a result most plan sponsors should think twice about putting too much effort into understanding and adopting the Roth feature.

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For most Americans, contrary to the current hype, the Roth 401(k) is less advantageous than a traditional 401(k). The current deduction is more valuable than the future tax-free distributions—even though tax rates may rise over the next 30 years. The primary reason is the difference between the tax rate paid to make the contribution (the marginal tax rate) and the taxes paid on the eventual distribution (the marginal tax rates which combine to create the effective tax rate on the distribution).

As income increases it is taxed at higher and higher marginal rates. There are currently six federal marginal tax rates for income. Because Roth 401(k)s will not be available for participant contributions until January 1, 2006, CCH's predicted tax brackets for 2006 were used for this analysis.

Exhibit 1. CCH's 2006 Tax Projections

Married Filing Jointly	Single	Tax Rate
\$0–\$15,100	\$0–\$7,550	10%
\$15,100–\$61,300	\$7,550–\$30,650	15%
\$61,300–\$123,700	\$30,650–\$74,200	25%
\$123,700–\$188,450	\$74,200–\$154,800	28%
\$188,450–\$336,550	\$154,800–\$336,550	33%
Over \$336,550	Over \$336,550	35%
http://www.cch.com/press/news/2005/20050921t.asp		

Income earned in each bracket is taxed at the corresponding tax rate. For example, a single filer with \$60,000 in taxable income would pay tax at three different levels (10 percent, 15 percent, and 25 percent), with 25 percent being the marginal rate. Another example would be a married couple with taxable income of \$250,000 (which is income after all deductions). All additional taxable income up to \$336,550 would be taxed at the second highest marginal tax bracket (33 percent), with any taxable additional income above \$335,550 taxed at the highest marginal tax bracket (35 percent). Their effective tax bracket would be determined as follows (see Exhibit 2).

All contributions that would be made to a Roth 401(k) would be at the current marginal rate of 33 percent. All distributions for retirement would occur at the blended rate on the distribution itself. For example, assume \$125,000 of the \$250,000 for the previous couple is a qualified plan distribution.

Exhibit 2. Tax Due on \$250,000 of Taxable Income		
Income level	Tax	Tax Due
\$0–\$15,100	10%	\$1,510
\$15,100–\$61,300	15%	\$6,930
\$61,300–\$123,700	25%	\$15,600
\$123,700–\$188,450	28%	\$18,130
\$188,450–\$336,550	33%	\$20,312
Over \$336,550	35%	\$0
Total Tax Due		\$62,482
Marginal Tax Rate		33%
Effective Tax Rate		24.99%
24.99% = (\$62,482/\$250,000)		

The effective rate on this \$125,000 would be 30.46 percent, which is below the 33 percent marginal rate. This 2.54 percent spread would increase at lower levels of income because of the higher disparity between tax rates at lower income levels (see Exhibit 3).

Exhibit 3. Tax Due on \$125,000 of Qualified Plan Taxable Income on Top of \$125,000 of Regular Taxable Income		
Income Level	Tax Rate	Tax Due
\$123,700–\$188,450	28%	\$17,766
\$188,450–\$336,550	33%	\$20,312
Over \$336,550	35%	\$0
Total Tax Due		\$38,078
Marginal Tax Rate		33%
Effective Tax Rate		30.46%

Preliminary Conclusions

The reasons that a traditional 401(k) is generally more advantageous than a Roth 401(k) are not complex:

1. *Contribution tax rate vs. distribution tax rate.* Contributions made to a Roth 401(k) are made at the current marginal tax rate. The majority of 401(k) participants (and retirees) will have a lower income replacement ratio during retirement compared to their accumulation period. A lower replacement ratio would mean a lower tax rate on the distributions than the contributions.

2. *Mathematical equivalence.* Given a totally flat tax both now and in retirement, Roth 401(k)s and traditional 401(k)s are mathematically equivalent. Therefore, a Roth 401(k) only makes sense mathematically if there is tax arbitrage (higher tax rates in retirement) or if certain other factors come into play that are unlikely to affect the majority of 401(k) participants.

Introduction to the Roth 401(k)

Between 2006 and 2010, 401(k) participants may choose between traditional 401(k) contributions or Roth 401(k) contributions, with the difference defined by the tax treatment. Traditional 401(k) employee deferral contributions are not subject to federal or state income tax (but are subject to Medicare and Social Security) and grow *tax deferred* until distribution. Roth 401(k) employee deferral contributions work in the reverse: The contributions are taxed but the eventual distribution will be *tax-free*.

Roth 401(k)s have certain other advantages:

1. No minimum distribution requirement at age 70½ if rolled to a Roth IRA;
2. Tax-free distribution to heirs upon death; and
3. No income limitations—anyone can contribute to a Roth 401(k) (whereas a Roth IRA is subject to an upper income limitation).

The legislation that created Roth 401(k)s is subject to sunset in 2010. This means that in five years, unless Congress decides to take action, the Roth 401(k) feature will vanish. This window creates both opportunity and uncertainty. Either way, participants will be asking themselves and their financial professionals where they would be better off saving for retirement.

Analysis

A quantitative analysis was conducted in order to determine the relative benefit of contributing to a Roth 401(k) vs. a traditional 401(k).

Assumptions

1. For this analysis, the impact of state taxes is ignored. Although some states allow certain levels of retirement income to be distributed tax-free during retirement (a significant factor in favor of traditional 401(k)s, making it even more unlikely that Roth 401(k)s will benefit participants in those states), state taxes are ignored because they are inconsistent across states and are more constant

- than federal taxes (they do not tend to have varying levels of marginal tax rates and tax brackets at high income levels).
2. It is assumed for this analysis that the Roth 401(k) will continue indefinitely. The likelihood of this is uncertain, but if Roth 401(k)s only exist as a contribution option for a few years, the difference between investing in a traditional 401(k) and Roth 401(k) will be small.
 3. This analysis uses real rates of return because real rates of return strip out the effects of inflation. Therefore, the value of all future dollars is in today's terms.

The figures used in this analysis represent estimates because each person's tax situation will differ. Certain types of deductions and credits (*e.g.*, education credit, child tax credit, itemized deduction phaseout) all are phased out at different income levels and will affect each participant differently.

The most important point to recognize when analyzing which 401(k) deferral choice is optimal for participants is that contributions into a traditional 401(k) reduce the participants' income at their *highest current marginal tax rate*. Effective tax rates should not be used when analyzing contributions because any traditional 401(k) contributions are taken "off the top" of the current participant's earnings. Traditional 401(k) contributions will later be taken out as distributions and taxed at a future corresponding rate, which could either be higher or lower depending on the total amount of taxable income.

Financial professionals often assume that most individuals will live off a smaller level of income during retirement (*e.g.*, 70% of pre-retirement income). This will further serve to decrease the effective tax rate on distributions, enhancing the benefit of traditional 401(k)s.

Assuming a Lump-Sum Distribution Leads to Flawed Results

The simplest evaluation of the benefit of a Roth 401(k) versus that of a traditional 401(k) is to assume a cash-out lump-sum distribution upon retirement. Such an analysis is overly simplistic and does not reflect the realistic decisions participants

make when they retire. If a participant were planning on taking the entire qualified plan balance out of the plan at retirement (*e.g.*, to buy a new boathouse), he would almost always be better off deferring into a Roth 401(k) because of the high effective tax rate on a large distribution. Few retirees, though, plan on using their life savings for such single purposes, so this situation is not addressed.

A more realistic evaluation assumes a deferral period followed by a distribution period in retirement until life expectancy. Present value calculations and linear growth rates are used for the analysis (no simulation/Monte Carlo analysis).

John Smith: Age 35 with \$100,000 of Income

The primary example will be John Smith. He is married to Jane Smith; they are both 30 and have two kids. John Smith is the only wage earner and has \$100,000 in taxable income. John and Jane have \$15,000 in itemized deductions and can use the child tax credit based on their adjusted gross income (AGI). They plan on retiring after turning 65, achieving a 6 percent accumulation real rate of return in the 401(k) followed by a 4 percent real rate of return during retirement (the distribution period), and they each have a life expectancy of 30 years during retirement. They have no current savings.

Their current effective tax rate depends on whether they make a traditional 401(k) contribution or Roth 401(k) contribution, but would be 14 percent or 15

Exhibit 4. Contribution Equivalence for John Smith		
	Traditional 401(k)	Roth 401(k)
Earnings	\$100,000	\$100,000
Traditional 401(k) Contribution	(\$10,000)	\$0
Taxable Income	\$90,000	\$100,000
Itemized Deductions	(\$15,000)	(\$15,000)
Exemptions	(\$13,000)	(\$13,000)
Taxable Income	\$61,800	\$71,800
Tax Due	(\$8,565)	(\$11,065)
Child Tax Credit	\$2,000	\$2,000
After Tax Amount	\$55,235	\$62,735
Roth 401(k) Contribution		(\$7,500)
Total After Tax Income	\$55,235	\$55,235

percent, respectively. In either case, though, their marginal tax bracket is 25 percent.

In 2006, John would like to begin saving 10 percent of his current earnings towards retirement. His employer matches 100 percent of the first 3 percent of contributions and he would like to know whether a traditional 401(k) contribution or Roth 401(k) contribution is best.

Exhibit 4 demonstrates the mathematical equivalence of contributing to a traditional 401(k) vs. a Roth 401(k) for John.

If John were to contribute \$7,500 (which is 75 percent of \$10,000) into a Roth 401(k) he will have accumulated a Roth 401(k) account balance of \$893,406 and a profit sharing account balance of \$357,363 upon retirement. Combined, this would create \$52,353 of annual after-tax retirement income for John and Jane until life expectancy. Assume there is no shift in tax rates and that John and Jane will no longer receive tax exemptions for their children or itemize during retirement.

If he were to contribute \$10,000 into a traditional 401(k), John will have accumulated a traditional 401(k) account balance of \$1,191,209 at retirement plus a profit sharing account balance of \$357,363. This would create \$58,792 of annual after-tax retirement income for John and Jane, which is 12.30 percent more than would have been created by

the Roth 401(k) contribution. Note that an annual after-tax income of \$58,792 represents a 106 percent replacement ratio based on current after-tax income. Exhibit 5 demonstrates the calculations.

What if Tax Rates Increase?

John Smith is a firm believer that tax rates are going to increase in the future and would like to know how his contribution would be affected if *effective* tax rates increased 10 percent when he retires. If effective tax rates were to increase by 10 percent, John and Jane would still be slightly better off contributing to a Roth 401(k). The income generated from the traditional 401(k) and the profit sharing would be \$51,871 versus \$52,056 from the Roth 401(k) and the profit sharing. Although the spread has been reduced substantially, the 10 percent tax increase was just barely enough to make a Roth 401(k) more advantageous. An annual after tax income of \$52,056 represents a 94 percent replacement ratio based on current after-tax income.

In reality, though, it is unrealistic to expect that Congress would shift each tax rate by the same percentage (as this scenario requires). A more likely scenario is that only the top brackets would be increased substantially. Assume, therefore, that Congress in the

future raises tax rates for the top three brackets only: How much would the increase have to be for John's effective rate to increase by just 7 percent? Answer: the increase would not affect John at all because he has no income in the top three brackets.

Additional Primary Retirement Income

What if John and Jane plan on receiving 25 percent of their current income during retirement (*e.g.*, from a combination of pension and Social Security income) as taxable income in addition to his 401(k) savings? The additional income would increase his overall effective marginal tax bracket upon retirement and would serve to reduce the benefit of contributing to a traditional 401(k). The additional income would serve to increase the total income generated from the

Exhibit 5. Distribution Results for John Smith		
	Traditional 401(k)	Roth 401(k)
Traditional 401(K) Balance ^a	\$1,191,209	
Profit Sharing Balance ^b	\$357,363	\$357,363
Annual Income	\$86,110	\$19,871
Deductions	(\$16,900)	(\$16,900)
Taxable Income	\$69,210	\$2,971
Tax Due	(\$10,417)	(\$297)
Income	\$58,792	\$2,674
Roth 401(k) Balance ^c		\$893,406
Annual Income		\$49,679
Total Income	\$58,792	\$52,353
^a \$1,191,209 Traditional 401(k) Balance = \$10,000 annual deferrals growing at 6 percent until retirement		
^b 357,363 Profit Sharing Balance = \$3,000 annual employer contributions growing at 6 percent until retirement		
^c \$893,406 Roth 401(k) Balance = \$7,500 annual deferrals growing at 6 percent until retirement		

traditional 401(k) and the profit sharing match (in addition to the additional primary income) would be \$71,922 versus \$67,919 from the Roth 401(k) and profit sharing match. The spread between the benefit from contributing to a traditional 401(k) versus Roth 401(k) has narrowed and \$71,922 represents a 137 percent replacement ratio based on current after-tax income.

Analysis of Independent Variables

Analyzing the benefit from contributing to a Roth 401(k) versus a traditional 401(k) is difficult because of the complex inter-relationship between current income, retirement income, tax rates, future tax rates, longevity, rates of return, etc. Each participant’s situation will be slightly different and those slight differences can have a *dramatic* impact on the decision of which 401(k) to choose. There are a number of themes, though, which can be used to reach some general conclusions.

1. *Replacement ratio:* Replacement ratio, defined as the percentage of after-tax income generated during retirement as a percentage of current after-tax income is one of the most important indicators when considering whether to contribute to a Roth 401(k) versus a traditional 401(k): The lower the percentage, the greater the benefit from contributing to a traditional 401(k). This should make sense from a tax perspective. Exhibit 6 demonstrates the effect of changing John’s current deferral percentage and the resulting benefit from contributing to a traditional 401(k) versus the same net amount to a Roth 401(k) and the corresponding replacement ratio. Based upon John’s current situation, only at extremely high replacement ratios does the benefit of contributing to a traditional 401(k) begin to decline.
The replacement ratio is the number one item to consider when comparing a participant’s current situation to his or her future expected income during retirement. If the participant plans on a substantial increase in earnings, then he or she would likely be better off contributing to a Roth 401(k). But the participant who is having an unusually high-income year would likely be better off contributing to a traditional 401(k).
2. *Current age:* Generally the closer the participant is to retirement the better off he or she is going to be making contributions to a traditional 401(k), depending on the retiree’s expected replacement

Exhibit 6. Increasing Replacement Ratio Equals Higher Benefit of Contributing to a Traditional 401(k)		
% Deferral	% Benefit of Contributing to a Traditional 401(k)	Replacement Ratio
5.00%	14.24%	53.29%
6.00%	14.10%	63.64%
7.00%	14.00%	74.27%
8.00%	13.92%	85.17%
9.00%	13.59%	96.14%
10.00%	12.30%	106.44%
11.00%	10.59%	117.13%
12.00%	6.94%	139.75%
13.00%	6.94%	139.75%
14.00%	5.53%	151.61%
15.00%	4.31%	163.87%

- ratio and tax impact of the future contributions.
3. *Increased deferral period:* Increasing deferral periods, or the time an investor saves for retirement, should result in a higher future account balance. A higher account balance will mean larger annual distributions and slowly move the scales in favor of Roth 401(k)s. This occurs because increased deferral periods result in a higher eventual account balance. A high account balance coupled with a shorter distribution period means a higher effective tax rate on the withdrawals—which would favor tax-free Roth 401(k) distributions.
4. *Increased life expectancy:* Increased life expectancy means a lower projected annual distribution during retirement. Lower annual distributions favor traditional 401(k)s because of the lower projected effective tax rate on the distributions. Exhibit 7 demonstrates various retirement ages and life expectancy figures for John Smith’s scenario.
Only if John Smith were to defer to retirement until age 70 and both he and Jane Smith were to pass away by age 80 would the Roth 401(k) be the more advantageous choice. The highlighted areas represent those situations in which it is more advantageous to contribute to a Roth 401(k)
5. *Current taxable income:* At higher levels of taxable income it is likely there will be additional income sources during retirement to supplement

Exhibit 7. Life Expectancy Analysis for John Smith				
% Benefit of Contributing to a Traditional 401(k)				
		Retirement Age		
		60	65	70
Life Expectancy	75	11.63%	1.79%	-7.34% ^a
	80	15.19%	5.32%	-1.35% ^a
	85	16.66%	7.95%	2.32%
	90	18.01%	10.27%	4.65%
	95	19.22%	12.30%	6.26%
	100	20.30%	14.05%	7.64%
Corresponding Replacement Ratio				
		Retirement Age		
		60	65	70
Life Expectancy	75	110.20%	236.46%	539.91%
	80	87.26%	171.36%	305.05%
	85	72.71%	138.29%	223.96%
	90	63.31%	118.94%	182.70%
	95	56.84%	106.44%	157.66%
	100	52.19%	97.84%	141.42%
^a Roth 401(k) is best only if John retires late and dies early.				

the 401(k) income. Higher income levels, though, complicate the contribution decision because of the varying levels of phase-outs for tax filers. Generally, the higher the income the less advantageous it is to contribute to a traditional 401(k), especially if there are additional income sources during retirement. Exhibit 8 demonstrates that even at varying levels of income and deferral rates (using John Smith's information), at no point is he better off contributing to a Roth 401(k).

6. *Deferral rate/amount:* An increased deferral rate or amount has the same basic impact as increasing life expectancy or deferral

period. Higher deferral rates result in higher account balances and therefore a higher level of taxes upon distributions. See Exhibits 6 (Replacement Ratio) and 8 (Current Taxable Income) for more information.

7. *Filing status:* Because the income brackets are narrower for single filers, single filers do benefit slightly more than married couples filing jointly from investing in a Roth 401(k); however, a traditional 401(k) would still be more advantageous in the majority of cases. For example, if we assume John Smith's situation (without Jane), the benefit from contributing to a traditional 401(k) decreases from 13.55 percent to 3.31 percent. This occurs because more of John's income would be subject to higher income levels because the marginal tax rates change at lower income rates. Also, he would no longer be eligible for the child tax credit.

8. *Investment real rate of return:* The higher the real rate of return achieved by the investments, the higher the eventual account balance should be upon retirement, and the higher the replacement ratio. Higher replacement ratios shift the scale slowly in favor of Roth 401(k)s. Exhibit 9 demonstrates the

Exhibit 8. Impact of Varying Income and Deferral Percentages Based on John Smith's Information						
Current Taxable Income		401(k) Deferral Percentage				
		3.00%	6.00%	9.00%	12.00%	15.00%
Annual Earnings	\$50,000	22.81%	9.35%	5.79%	4.01%	2.31%
	\$100,000	14.75%	14.10%	13.59%	8.61%	4.31%
	\$150,000	9.10%	8.79%	6.29%	—	—
	\$200,000	10.33%	8.05%	—	—	—
	\$250,000	11.03%	11.08%	—	—	—
Corresponding Replacement Ratio						
Current Taxable Income		401(k) Deferral Percentage				
		3.00%	6.00%	9.00%	12.00%	15.00%
Annual Earnings	\$50,000	13.36%	62.00%	115.53%	176.81%	249.24%
	\$100,000	33.35%	63.64%	96.14%	128.26%	163.87%
	\$150,000	39.07%	66.98%	94.92%	—	—
	\$200,000	41.41%	66.56%	—	—	—
	\$250,000	42.01%	66.68%	—	—	—

Exhibit 9. Real Rate of Return Analysis for John Smith							
		% Benefit from Contributing to a Traditional 401(k)					
		2.00%	3.00%	4.00%	5.00%	6.00%	
Accumulation	Real Rate of Return	2.00%	42.65%	34.26%	28.41%	24.58%	21.90%
	3.00%	30.32%	25.44%	22.20%	19.91%	18.21%	
	4.00%	23.09%	20.28%	18.29%	16.81%	15.68%	
	5.00%	18.73%	16.97%	15.66%	14.66%	12.48%	
	6.00%	15.88%	14.71%	12.30%	10.15%	8.44%	
	7.00%	12.65%	10.16%	8.22%	6.68%	5.43%	
	8.00%	8.39%	6.62%	5.21%	3.93%	2.77%	
	9.00%	5.29%	3.82%	2.52%	1.46%	0.42%	
	10.00%	2.55%	1.34%	0.01%	-1.49% ^a	-2.76% ^a	
	11.00%	0.00%	-1.70% ^a	-3.12% ^a	-4.33% ^a	-5.35% ^a	
	12.00%	-3.16% ^a	-4.52% ^a	-5.56% ^a	-6.48% ^a	-7.29% ^a	
Corresponding Replacement Ratio							
		Distribution Real Rate of Return					
		2.00%	3.00%	4.00%	5.00%	6.00%	
Accumulation	Real Rate of Return	2.00%	20.67%	26.88%	33.20%	39.80%	46.65%
	3.00%	30.77%	38.06%	45.75%	53.78%	62.12%	
	4.00%	43.31%	52.25%	61.68%	71.54%	81.76%	
	5.00%	59.29%	70.33%	81.97%	94.14%	105.46%	
	6.00%	79.68%	93.40%	106.44%	119.79%	133.63%	
	7.00%	104.58%	119.72%	135.68%	152.37%	169.67%	
	8.00%	134.09%	153.11%	173.17%	193.58%	214.46%	
	9.00%	171.97%	195.35%	219.65%	245.05%	270.94%	
	10.00%	219.04%	248.23%	278.03%	307.97%	339.03%	
	11.00%	278.16%	312.69%	349.09%	387.14%	426.61%	
	12.00%	350.16%	394.15%	440.71%	487.71%	536.50%	
^a Roth 401(k) is only best if <i>real</i> rates of return are unreasonably high.							

- benefit of contributing to a traditional 401(k) based upon various accumulation and distribution rates of return for John Smith.
9. *Future tax rate changes:* Future tax rates are as difficult to forecast as future investment returns (if not more so). If the participant or financial professional truly believes future tax rates (federal or state) are likely to increase, a move to a Roth 401(k) would be quantitatively justified *if the approximate expected overall future increase in tax rates would*

savings beyond deferrals are therefore the few Americans likely to benefit from a Roth 401(k). Any additional taxable income in retirement will increase the effective tax rate in retirement, and

cause the future expected effective tax rate on distributions to exceed the marginal tax rate at which the original contributions were made.

Exhibit 10 demonstrates the effect of a future parallel shift in tax rates based upon John and Jane Smith's current situation. Only at an increase of over 10 percent would John and Jane be better off contributing to a Roth 401(k).

The research paper published by The Vanguard Center for Retirement Research titled *Tax Diversification and the Roth 401(k)* explored the issue of contributing to both a traditional 401(k) and a Roth 401(k) for tax diversification purposes. This may be a prudent approach, but the expected cost of the diversification should be reviewed before a decision is made.

10. *Additional taxable income during retirement (and current savings):* If you make enough money in retirement, your full distribution from your retirement plan will occur at the highest marginal rate. Wealthy plan participants or those with very large

Exhibit 10. Impact of Future Tax Rate Shifts on John Smith

Future Tax Rate	% Benefit of Contributing to a Traditional 401(k)	Replacement Ratio
-5.00%	18.57%	112.71%
0.00%	12.30%	106.44%
5.00%	5.99%	100.18%
10.00%	-0.36%	93.91%
15.00%	-7.22%	87.65%
20.00%	-15.15%	81.38%

higher effective rates relative to marginal rates move toward favoring the Roth 401(k).

Additional taxable income is a major factor for those participants who have large employer pre-tax contributions (*e.g.*, profit sharing) in addition to their \$15,000 maximum elective deferral. The annual addition limit for 2006 is \$44,000 (*i.e.*, the maximum amount that may be contributed into a defined contribution plan for any one participant), of which \$15,000 is the maximum elective employee deferral. The larger the ratio of employer contribution to current compensation, the more advantageous it becomes to contribute to a Roth 401(k) because of the certainty of so much additional taxable income in retirement. Realistically, though, the vast majority of 401(k) participants only receive a matching contribution, generally no more than 3 to 4 percent of current compensation.

Where a Roth 401(k) Makes Sense

By combining the results from independent variable tests, one can determine the segment of investors for which a Roth 401(k) contribution makes sense. For someone to benefit from a Roth 401(k), he or she should have the majority of the following characteristics:

1. At least 30 years until retirement;
2. An aggressive investor with expected real rate of return over 7 percent (implying a gross rate over 10 percent);
3. An increase in future effective tax rates at least equal to the spread between the investor's current marginal tax bracket and effective tax rate expected during retirement;

4. An investor who plans on deriving a substantial portion of his or her retirement income from additional taxable income, outside a 401(k) arrangement (such as personal savings); and
5. An employee receiving a large employer contribution (over 10 percent of current earnings).

Roth 401(k) Versus a Traditional 401(k) and a Taxable Account

The preceding analysis did not consider the situation in which the equivalent net Roth 401(k) contribution would equal a traditional 401(k) contribution as well as a contribution to a taxable account.

Example: An investor with a 30% marginal tax bracket invests \$15,000 in a traditional 401(k) versus \$10,500 in a Roth 401(k). It would be unfair to compare a \$15,000 Roth 401(k) contribution to a \$15,000 traditional 401(k) contribution because they cost the participant two different net amounts. An analysis was performed, therefore, to compare the benefit of investing the full \$15,000 in a Roth 401(k) and investing \$15,000 in a traditional 401(k) plus the net tax savings in a taxable account.

The maximum Roth 401(k) contribution of \$15,000 in 2006 would cost \$22,388 after taxes, assuming a 33 percent marginal tax bracket. This would be equivalent to making a \$15,000 contribution to a traditional 401(k) and \$4,950 contribution into a taxable account. If a Roth IRA contribution were available, this would be the obvious choice for the remaining tax equivalent contributions; however, Roth IRA contributions are disallowed for married participants with an adjusted gross income of \$160,000.

Therefore, an analysis was conducted comparing a full Roth 401(k) contribution to an equivalent traditional 401(k) and taxable account contribution. Even assuming reasonable tax efficiency can be maintained in the taxable account (annual turnover of less than 50% and all distributions and gains taxed at a flat 25%), the benefit of contributing to a Roth 401(k) is substantially increased. Those participants who are seeking to contribute the maximum allowable are likely high-income individuals who will have high levels of income during retirement. These individuals are likely better served making the maximum contribution to a Roth 401(k) versus the comparable amount to a traditional 401(k) and taxable account. The impact of the additional taxable income should, however, be discussed from a tax perspective with the participant's tax advisor. Higher levels of income may make the participant no longer eligible for various

deductions and credits that could substantially increase the actual cost of the Roth 401(k) contribution.

Reality

An important qualitative consideration that is not addressed in this article is whether or not participants would actually calculate the actual true net cost of a Roth 401(k) contribution versus a traditional 401(k) contribution. If a participant were indifferent between contributing \$10,000 to either a Roth 401(k) or a traditional 401(k) (regardless of the true net cost), he would likely be better served contributing to a Roth 401(k) for retirement purposes.

The same condition applies for affluent individuals who would exceed the deferral limit and must choose between a Roth 401(k) and a traditional 401(k) coupled with a taxable account. Although few Americans “max out” their deferrals, the participant who is unlikely to make the additional contribution would likely be better served by contributing to a Roth 401(k) for retirement purposes.

Profile of a Roth 401(k) Investor

Roth 401(k) is a poor choice for most plan participants, but not for all. So what is the profile of the participant who *should* choose the Roth 401(k) contribution?

The following four profiles represent generalized situations in which an employee would be better off making a contribution to a Roth 401(k) versus the same net contribution to a traditional 401(k).

Profile 1: Extremely low income. An individual or couple who does not currently pay *any* income taxes would be much better served contributing to a Roth 401(k) than to a traditional 401(k), as the marginal tax rate paid to make the contribution would effectively be zero. Although indi-

vidual circumstances will vary, those individuals earning less than \$30,000 annually are likely better served contributing to a Roth 401(k).

Profile 2: Doctors/professionals with high compensation and high employer contributions. A doctor who has the ability to make the maximum annual contribution of \$44,000 to his or her qualified plan is likely better served contributing the elective deferral portion (\$15,000) to a Roth 401(k).

Profile 3: Young aggressive saver. A young aggressive saver (such as a 30-year-old saving 20% of current income) who expects to have retirement income significantly higher than his or her current income and who believes his or her *real* return will be above 7% is likely to be better served contributing to a Roth 401(k).

Profile 4: Wealthy individuals. For someone who has amassed a great deal of wealth, a Roth 401(k) may represent the better option. Those who already have accumulated a great deal of wealth seeking to pass on tax-advantaged assets may be best served by contributing to a Roth 401(k).

Conclusion

After running a quantitative analysis between Roth 401(k)s versus traditional 401(k)s, it is unlikely that many participants will benefit from shifting to a Roth 401(k) option. Although such a decision should only be based on each participant's individual circumstances, the math repeatedly points toward traditional 401(k)s. Likely candidates for Roth 401(k)s are limited to wealthy individuals, high compensation/high contribution professionals (such as doctors), and certain young, aggressive savers. ■